

REMARKS / ARGUMENTS

Status of Claims

Claims 1-27 are pending in the application. Claims 1-27 stand rejected. Applicant has amended Claims 1, 4, 6, 9, 14, 16-26, canceled Claims 15 and 27, and added new Claims 28-30, leaving Claims 1-14, 16-26, and 28-30 for consideration upon entry of the present Amendment.

Applicant respectfully submits that the rejections under 35 U.S.C. §112, second paragraph, and 35 U.S.C. §102(b) have been traversed, that no new matter has been entered, and that the application is in condition for allowance.

Drawing Objection

Figure 1 is objected to because only that which is old is illustrated, and should be designated by a legend such as Prior Art.

Applicant has attached herewith a replacement sheet in compliance with 37 CFR 1.21(d).

Specification

The Examiner remarks that the title of the invention is not descriptive, and that a new title that is clearly indicative of the invention to which the claims are directed is required.

The title should be brief but technically accurate and descriptive. Where the title is not descriptive of the invention claimed, a new title should be provided that is clearly *indicative of the invention to which the claims are directed*. MPEP § 606 (emphasis added).

While Applicant believes that the original title is descriptive of *the invention to which the claims are directed*, Applicant has nonetheless provided a substitute title in an effort to further this application to allowance.

Independent Claims 1 and 23 are directed to "An electrochemical cell...".

Accordingly, the invention is directed to “an electrochemical cell”. As such, Applicant submits that the phrase “Low Profile Electrochemical Cell” is indicative of the invention to which the claims are directed.

Since “Low Profile Electrochemical Cell” is technically accurate and descriptive of the invention to which the claims are directed, Applicant submits that the original title meets the requirements of MPEP §606.

However, in an effort to further this application to allowance, Applicant provides herewith the substitute title of “Low Profile Electrochemical Cell Apparatus”, which is even more descriptive of the invention to which the claims are directed as it now indicates the statutory class of the invention.

In view of the foregoing amendment and remarks, Applicant respectfully submits that the Title as amended is sufficiently descriptive of the invention to which the claims are directed and therefore complies with MPEP §606. Accordingly, Applicant respectfully requests the Examiner’s acceptance of this amended title.

The Examiner reminds Applicant of the proper language and format for an abstract of the disclosure, and that it is important that the abstract not exceed 150 words in length.

Applicant has amended the Abstract, and respectfully submits that the Abstract as amended does not exceed 150 words in length. Accordingly, Applicant respectfully requests the Examiner’s acceptance of the amended Abstract.

Claim Objections

Claims 1, 4, 6, 9 and 16-27 are objected to for reasons relating to alleged informalities regarding the use of abbreviations. Applicant respectfully submits that the subsequent use of abbreviations, following an initial use set off in parentheses to indicate the expanded representation, is an acceptable claim construction technique.

However, in an effort to further this application to allowance, Applicant has amended Claims 1, 4, 6, 9, and 16-27 to expand the abbreviated terms and remove the explanatory abbreviation set off in parentheses.

Accordingly, Applicant respectfully requests the Examiner to reconsider and withdraw these objections, which Applicant considers to be overcome.

Rejections Under 35 U.S.C. §112, Second Paragraph

Claims 1-27 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that Applicant regards as the invention.

The Examiner comments that the limitations “the first electrode side” in lines 6-7 of Claims 1 and 23 and “the second electrode side” in lines 10-11 of Claims 1 and 23 lack antecedent basis in the claim. Further, that “the webbing” in line 17 lacks antecedent support within the claim. Furthermore, that “the edge” in line 2 of Claim 14 is lacking sufficient antecedent basis within the claim.

Applicant has amended Claims 1 and 23 to now recite inter alia “*a same side of the membrane electrode assembly as the first electrode*” in lines 6-7 and “*a same side of the membrane electrode assembly as the second electrode*” in lines 10-11. Applicant has amended Claim 1 to now recite “a webbing” in line 17, and Claim 14 to now recite “an edge” in line 2. No new matter has been added, as antecedent support may be found in the application as originally filed, such as the originally filed claims, for example.

The Examiner comments that the term “sufficient to” or “sufficient for” in Claims 4, 6, 15, 19, 24, 26-27 is/are relative term(s) which render the claims indefinite, and that the degree of how compressible or porous the carbon layer needs to be to have the claimed functionality is unknown or uncertain. [paper 20070801, page 4]

Applicant traverses this rejection for the following reasons.

Applicant has canceled Claims 15 and 27 without prejudice or disclaimer.

Applicant has amended Claims 4, 6, 19, and 24 to now recite the degree of how compressible the pressure pad, carbon layer, and gas diffusion layer need to be to have the

claimed functionality. Specifically, the amended claims recite a definite minimum pressure (at least about 150 pounds per square inch) is produced in response to a definite amount of compression (15 percent of an uncompressed thickness). No new matter has been added, as antecedent support may be found in the Application as filed, such as at Paragraphs [0029], [0032], [0034], and [0036] for example.

Applicant has amended Claim 26 to now recite, inter alia, "...the porosity capable of allowing diffusion of gas and liquid...". No new matter has been added, as antecedent support may be found in the application as originally filed, such as at Paragraph [0031], for example. Applicant respectfully submits that the amended claim presently recites the degree of how porous the gas diffusion layer needs to be to have the claimed functionality. Specifically, the gas diffusion layer must have porosity that is capable of allowing diffusion of gas and liquid.

In view of the foregoing amendments and remarks, Applicant respectfully submits that the claimed subject matter is described in such a manner that reasonably conveys to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Accordingly, Applicant respectfully requests the Examiner to reconsider and withdraw this rejection, which Applicant considers to be traversed.

Rejections Under 35 U.S.C. §102(b)

Claims 1-27 stand rejected under 35 U.S.C. §102(b) as being anticipated by Yoshida et al. (U.S. Publication No. 2003/0064279, hereinafter Yoshida).

Applicant traverses this rejection for the following reasons.

Applicant respectfully submits that "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, *in a single prior art reference.*" *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987) (emphasis added). Moreover, "[t]he identical invention must be shown in as complete detail as is contained in the *** claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir.

1989). Furthermore, the single source must disclose all of the claimed elements “arranged as in the claim.” Structural Rubber Prods. Co. v. Park Rubber Co., 749 F.2d 707, 716, 223 U.S.P.Q. 1264, 1271 (Fed. Cir. 1984). Missing elements may not be supplied by the knowledge of one skilled in the art or the disclosure of another reference. Titanium Metals Corp. v. Banner, 778 F.2d 775, 780, 227 U.S.P.Q. 773, 777 (Fed. Cir. 1985).

Dependent claims inherit all of the limitations of the respective parent claim.

Regarding Independent Claim 1

Applicant has amended Claim 1 to now recite, inter alia “...a plurality of continuous uninterrupted flowchannels disposed parallel to one another...wherein each continuous uninterrupted flowchannel ...extends substantially from one edge of the carbon layer to an opposite edge of the carbon layer...”

No new matter has been added, as antecedent support may be found in the application as originally filed, such as at Paragraph [0034] and Figures 10, 11, 12, and 13 for example.

Applicant finds Yoshida to disclose “...pore distribution varies in the surface plane direction of the carbon cloth in a manner that smaller pore portions and larger pore portions are alternately arranged...” [Paragraph 0066]

Applicant submits that disclosure of pores extending through a carbon cloth and distributed across a surface plane of the carbon cloth is substantially different from, and fails to disclose the “plurality of *continuous uninterrupted flowchannels disposed parallel* to one another...the length of each continuous uninterrupted flowchannel ...*extends substantially from one edge* of the carbon layer *to an opposite edge* of the carbon layer” (emphasis added), as recited in amended Claim 1. (A pore extending *through a thickness* of a carbon cloth fails to disclose a flow channel comprising a *length* that extends from *one edge to an opposite edge* of the carbon layer.)

Accordingly, Applicant submits that Yoshida does not disclose all of the claimed elements arranged as claimed, and absent anticipatory disclosure in Yoshida of each and

every element of the claimed invention arranged as in the claim, Yoshida cannot be anticipatory.

Regarding Independent Claim 23

Applicant has amended Independent Claim 23 to incorporate elements amended into Independent Claim 1 above. Applicant respectfully submits that for at least the same reasons as set forth above Regarding Independent Claim 1, Yoshida also fails to anticipate Independent Claim 23.

Accordingly, Applicant submits that Yoshida does not disclose all of the claimed elements arranged as claimed, and absent anticipatory disclosure in Yoshida of each and every element of the claimed invention arranged as in the claim, Yoshida cannot be anticipatory.

Regarding Claims 2-3, 6, 19-21, and 24-25

Applicant respectfully submits that the foregoing structural amendments to distinguish Independent Claims 1 and 23 from Yoshida serve to overcome the inherency rejection of dependent Claims 2-3, 6, 19-21, and 24-25.

Accordingly, Applicant submits that Yoshida does not disclose all of the claimed elements arranged as claimed, and absent anticipatory disclosure in Yoshida of each and every element of the claimed invention arranged as in the claim, Yoshida cannot be anticipatory.

Regarding Claim 14

Applicant has amended Claim 14 to now recite "...at least one continuous uninterrupted flowchannel of the plurality of continuous uninterrupted flowchannels interrupts an edge of the carbon layer...". No new matter has been added, as antecedent support may be found in the application as originally filed, such as at paragraph [0034] and Figure 11, for example.

To allege anticipation of Claim 14, the Examiner looks to Figure 13 of Yoshida. [paper 20070801, page 9]

Applicant respectfully submits that Figure 13 of Yoshida discloses a plurality of adjacent flow channels disposed *adjacent to an edge* of the carbon layer, but absent any disclosure of a continuous uninterrupted flowchannel that *interrupts* an edge of the carbon layer, as recited in amended Claim 14.

Accordingly, Applicant submits that Yoshida does not disclose all of the claimed elements arranged as claimed, and absent anticipatory disclosure in Yoshida of each and every element of the claimed invention arranged as in the claim, Yoshida cannot be anticipatory.

In view of the amendment and foregoing remarks, Applicant submits that Yoshida does not disclose each and every element of the claimed invention arranged as claimed and therefore cannot be anticipatory. Accordingly, Applicant respectfully submits that the Examiner's rejection under 35 U.S.C. §102(b) has been traversed and requests that the Examiner reconsider and withdraw this rejection.

New Claims 28 – 30

Applicant has added new Claims 28-30, which each depend from Claim 1, to now claim originally disclosed but previously unclaimed subject matter. No new matter has been added as antecedent support may be found in the application as originally filed, such as at Paragraph [0034] and Figures 10, 11, 12, and 13, for example.

In view of the amendment and remarks set forth above regarding the allowability

of Claim 1, Applicant submits that new Claims 28-30 are directed to allowable subject matter and respectfully requests entry and notice of allowance thereof.

In light of the forgoing, Applicant respectfully submits that the Examiner's rejections under 35 U.S.C. §112, second paragraph, and 35 U.S.C. §102(b) have been traversed, and respectfully requests that the Examiner reconsider and withdraw these rejections.

If a communication with Applicant's Attorneys would assist in advancing this case to allowance, the Examiner is cordially invited to contact the undersigned so that any such issues may be promptly resolved.

The Commissioner is hereby authorized to charge any additional fees that may be required for this amendment, or credit any overpayment, to Deposit Account No. 06-1130. In the event that an extension of time is required, or may be required in addition to that requested in a petition for extension of time, the Commissioner is requested to grant a petition for that extension of time that is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to the above-identified Deposit Account.

Respectfully submitted,

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